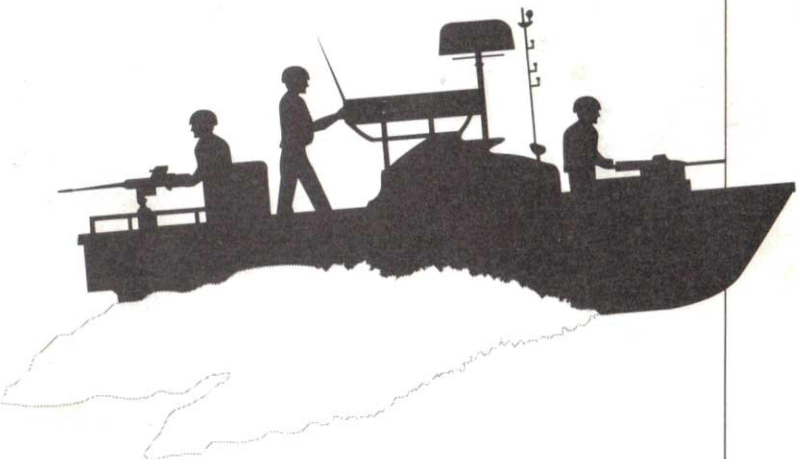
GUNBOAT

RIVER COMBAT SIMULATION

Manual for
Spectrum and Amstrad Computers



Designed by: Tom Loughry
Producer: Chris Bankston
Programmed by: The Code Monkeys



Faster Than a Speeding PBR

San Francisco Bay glittered under the summer sun as the PBR Mark III turned away from Mare Island and cut a long, smooth wake over the northeastern sloughs. From his perch in the bow gunner's turret, Tom Loughry took in the full 270-degree view of crystal clear California sky overhead, and watched a pair of great blue herons rise from the rushes along the near shore. They looked almost close enough to touch. He smiled and settled back as the boat picked up to 30 knots. In his hyperactive imagination, the spark of idea ignited, and caught fire.

Loughry was riding high in more ways than one that bright May day. His last entertainment program, the **Steel Thunder** tank simluation, had been nominated the Best Simulation Program of 1988 by the Software Publishers' Association – the equivalent of being nominated for an Oscar in software. Accolade Producer Sam Nelson was after him to create another hit — soon. **Steel Thunder** had offered simulation fans a degree of immediacy and realism that hadn't been seen anywhere before, and Tom knew that Steel Thunder's program engine had the potential to drive a great naval combat simulation.

That afternoon, he also knew that he'd found his boat.

In Search of the PBR

"I'd been investigating different kinds of boats for awhile," Loughry remembers. "I first looked at big ships like the high-tech Ticonderoga-class cruisers. But big ships usually pitch battles at distances of over 100 miles, hurling missiles and planes you can't see against an enemy you can't see. I was looking for something with an almost visceral immediacy, and that wasn't it. So I looked at small craft, which led me right away to the PBR — 'Patrol Boat, River' — that the Navy developed for use in Vietnam. The high-speed boats and close-combat tactics were exactly what the Steel Thunder engine was built to handle, and I started to get excited. Then I learned that PBRs are still around — and that their main training center is at Mare Island, only two hours from home. So Roseann Mitchell, (Accolade's graphics and animation chief), Sam Nelson, (Accolade Producer for the project) and I went up there to take a closer look."

For all three, the PBR was the ride of a lifetime. "At one point, the pilot yelled, 'Hang on!,' and spun the boat around in a full-speed U-turn," remembers Loughry. "Roseann held on with only one hand, and lost her grip in the force of the turn. She would have gone over the side if she hadn't run into me first. We'd turned 180 degrees in less than one boat length, at a speed of nearly 30mph. It was brutal."

Loughry spent several hours that day checking out the PBR's systems and capabilities. The Mare Island crew showed him how to pilot the boat, running it in figure 8s and donuts in water less than two feet deep. And then there were the guns.

"Sitting in the bow gunner's turret is like hanging off a 100-foot pole off the front of the boat. You're out there in this lightly armored cubbyhole with nothing but open sky in front of you. There's not even a real seat: you sit on this strap, suspended over the bare hull, with water sloshing around under your feet. It feels really *dangerous*. Not that the other stations are any more



cozy: when you're standing at the stern gun and the boat is underway, your feet are considerably below the water line, and the gun rises just above it. And the midship gunner stands up on top of the engine compartment, between two steel plates that are only about waist high — another vulnerable position. All in all, the most comfortable place on the boat is the cabin: there's no seat, but at least you're inside armored walls that come up to your nose."

Setting the Scene

PBR warfare was a central plot element in the movie *Apocalypse Now*, so Loughry figures people who've seen the movie will have a pretty good sense of what PBR combat is like — "the suspense of not knowing what's around the bend, and the intense immediacy of battle." Vietnam was a natural starting scenario, because that's where the U.S. Navy first discovered and perfected modern riverine warfare.

"Panama was a natural, too, given its instability," Loughry notes. " I discovered some months before the recent invasion that there were U.S. PBRs stationed down there, and so I put that into the simulation. I had no way of knowing how timely these scenarios were going to become. Colombia is another unstable situation, but the scenarios there are more of a fantasy. There aren't any PBR units down there that I'm aware of — but if we ever got involved, they'd probably be among the first Navy forces to go in."

Blood & Guts

The up-close-and-personal nature of the combat scenes in **Gunboat** posed an ethical dilemma — not only for Loughry, but for several other members of the development staff. Most mainstream combat simulations draw the line at showing dead bodies and blood. After plenty of long, lively discussions, it was decided to take **Gunboat** through that line, for some important reasons.

Blood & Guts (continued)

"I don't think computer games should show gratuitous levels of blood and gore." Loughry is emphatic. "On the other hand, simulations are designed to communicate some level of reality, and unfortunately, dead and wounded people are the reality of war. Most combat games encourage people to think of war in terms of detached explosions, which is a serious misconception. A couple of times, I started to take the gross parts out — but in the end, I left them in. War seems to have its place in the world, and I'd rather have people take their aggressions out on computer games than on each other."

Wild Times

One of the **Gunboat** scenarios includes falling rubble from a 7.1 earthquake. "It's really hidden, so most people will probably never find it...but it's there," Loughry insists. The rockpile is a tribute to the October 17, 1989 Loma Prieta earthquake, which was centered less than 10 miles from Loughry's Santa Cruz mountain home. "Like everyone else in the Bay Area, I had trouble concentrating on my work for a month or so afterward, especially with the almost continual aftershocks rocking my office. It seemed natural to include some sort of monument to the quake, since it was an important factor in **Gunboat's** development process."

From that wild spring cruise, through an autumn of wild arguments, wild earth movements, wild political developments, and a wild pace that would have exhausted almost any other programmer (but seems to come naturally to Loughry), it follows that the final result would be the wildest naval combat simulation ever launched on a personal computer.



Section 1: Startup

How To Load Gunboat

For loading instructions, please consult loading card.

Quick Start

The following instructions are designed to take you quickly through **Gunboat's** startup procedures. Follow these steps, and in just a few minutes, you'll be out on the water, on your way to your first mission.

- If you want to know more about equipment, armament, tactics, or any phase of your **Gunboat** mission, turn to the appropriate section of this manual.
- As a general rule, you can press **Enter** or the **Space Bar** to move through the initial setup screens. The resulting scenario will be based on default options.

1 Follow the instructions in the "How to Load Gunboat" section above to reach the Main Menu screen. Use the arrow keys to select **Report For Duty**, and press **Enter**.

2 At the Admiral's request, type your name and press **Enter**.

3 If this is your first-ever **Gunboat** mission, you are automatically assigned to the Vietnam patrol unit. At the "Welcome to Vietnam prompt, press **Enter** to view the RBP Commanders' Roster.

4 Press **Enter** to add your name to the roster.

5 The Admiral presents you with a Region Briefing, some other information, and finally, your mission assignment. Press **Enter** twice to get to the specific mission information.

- If you'd like to see the map, press **M**
- Press any key to exit this screen. To accept your first mission, press **Enter**.

GUNBOAT

To Control the Gunboat From the Pilot's Station

From the Pilot's Station, use the following commands to change the speed and direction of the boat:

Up arrow	Throttle forward
Down arrow	Throttle back (use this to move into reverse and back up)
SPACE	Slow down
Left arrow	Turn left
Right arrow	Turn right

To Control the Boat from Any Gunner's Station

From any of the three gunners' stations, use the following commands to change the speed and direction of the boat:

Y	Reverse Course
W	Branch left at the upcoming fork in the river or river mouth
E	Branch right at the upcoming fork in the river or river mouth
T	Slow down
R	Speed up



Fire on the Enemy from the Pilot's Station

When a possible target appears in your window:

1 Centre the target in front of the boat, and press **I** to request a target ID. (This is important: firing on friendly forces is the quickest known route to a court-martial. Your computer gunners won't fire on friendly targets.)

Fire on the Enemy from a Gunner's Station

To fire on a target from any of the three gunners' stations:

1 Go to the station that gives you the best clear shot at the target — and the best weapon to destroy it. To do this, press:

V	Front (bow) station
B	Midship station
N	Stern (rear) station

2 Use the joystick or arrow keys to aim your guns at the target.

3 Press and hold the **Space** key or joystick button to release a burst of fire.

Section 2:
At Dockside: Taking Command

This section contains specific information on preparing your PBR and crew for battle. It includes instructions for PBR practice drills, dealing with base security and administrative paperwork, choosing your mission, equipping your boat, and taking command of your crew. The Admiral recommends that you review it carefully to thoroughly familiarize yourself with PBR operations.

Practice Mode

Gunboat offers three hands-on Practice Modes that are accessible from the Main Menu Screen. The Practice Mode is actually three different drills, each designed so you can master one of the three most critical PBR combat skills: operating the guns, firing grenades, or piloting the boat.

- To enter Practice Mode, load the **Gunboat** simulation, following the instructions in Section 1. From the Main Menu screen, rotate the joystick or use the arrow keys to highlight the type of practice you want, then press **Enter** to select.
- To leave a Practice Mode and return to the Main Menu Screen, press the **ESC** key at any point during your drill.

When you enter a Practice Mode, everything's already turned on and ready to go. In each drill, there is no set mission objective, no scoring, and no damage inflicted on your boat — though the computer keeps track of the damage *you* inflict on your targets. Here's how each mode works:



Gunnery Practice

You're the forward gunner, in place and ready at the bow of the boat. Your drill is simply to return fire on any and all enemy targets. use the arrow keys to aim you guns; and press **Space**. Other commands include:

I Identify Target — Press this to find out more about the target directly in front of you.

Grenade Practice

You're the center gunner, located in the middle of the boat along with the M129 automatic grenade launcher. You can send down a hail of grenades on anything with impunity. The practice commands at this station are identical to those used in Gunnery Practice mode described above — though picking off targets with the slower-firing grenade launcher is considerably different than using a smaller gun with a higher rate of fire.

Pilot Practice

You're at the helm, refining your navigation skills and getting the feel of the boat. The practice runs are conducted in and around Mare Island, California, the Navy's West Coast PBR base. As you cruise the meandering riverways, experiment with the following commands:

I Identify Target

Use the following keyboard commands to change the speed and direction of the boat:

Up arrow	Throttle forward
Down arrow	Throttle back (use this to move into reverse and back up)
Space	Slow down
Left arrow	Turn left (rotate water jets left)
Right arrow	Turn right (rotate water jets right)

Report For Duty

If you 're ready to bypass Practice Mode and get down to business, go to the Main Menu Screen and select **Report For Duty**.

Identify Yourself

PBR units are often assigned to LSTs (Landing Ship, Tank) — large maintenance ships anchored offshore, which serve as a kind of mobile home port. Your encounters with the Admiral occur on the bridge of your unit's LST. At the beginning of each mission, the Admiral first requests that you identify yourself.



If you want to review your glorious career, or find out who else is bucking for promotion, press **Caps** to view the PBR Commanders' File. All the current PBR officers are listed here (up to 5 on a disk), with their individual battle stats, rank, medals, and commendations. This information is updated automatically after each mission. Press the Up and Down arrow keys to cycle through these records.

Press **Caps** again to return to the bridge. To identify ourself, simply type your name (don't bother with the rank: the Admiral sees your stripes very clearly), and press **Enter**.

If you're already listed in the personnel file, the Admiral welcomes you. If you're cleared for combat in more than one theater, he asks you to select the region in which you want to serve. (Your choices increase along with your rank and experience.) Use the joystick or the arrow keys to select your region, and press **Enter**.

If you're new to the riverine units, the Admiral asks: "How should I update my roster?" This is your opportunity to add or change the information in the PBR Commanders' File. Use the joystick or arrow key to select one of the following options:

- ADD — Add a new PBR captain's name to the list
- REPLACE — Replace one name with another
- REDO — Return to the Bridge (If you made a mistake, you can start over again from here.)

When all the information in the PBR Commanders' File is correct, press **Enter** or the joystick button to move on.

Choose Your Mission

You gain rank and earn medals by completing missions. Every mission you undertake has a corresponding promotion rank. If you complete the mission successfully, you are automatically promoted to that rank.

The Admiral can offer you assignments in one of three areas, depending on your previous experience and achievements. For your first several missions, he assigns you to Vietnam — the birthplace of modern riverine warfare. Once you're promoted to Second Lieutenant, you have the opportunity to battle vicious drug lords and cocaine smugglers in Colombia. Only the elite PBR captains — those who've reached the rank of Lieutenant Commander or above — are entrusted with the politically sensitive missions that keep clear the Panama Canal Zone.

Once you've been assigned to a particular battlefront, the Admiral outlines the current missions. You can choose from between 2 and 8 missions, depending on your experience. Use the joystick or the Up or Down arrow keys to cycle through the assignment files. In each file, you can:

- Read a brief description of the mission.
- Press **M** to view the map of the mission area. The arrow points to your primary mission target. Press **Space** to return to the assignment file that corresponds with the map you are viewing.
- Press **Enter** to accept the mission.



The first mission of each scenario is a practice mission in which you are invulnerable to enemy fire. This helps you get the lay of the land, and familiarize yourself with the enemy's positions and armament.

About Your Crew

In the real world, U.S. Navy PBRs typically carry a crew of four: a first-class petty officer who serves as boat captain and pilot; a gunner's mate, who controls the forward guns; an engineman, who takes care of the engines and serves as midship gunner; and a seaman who controls the aft guns. All four are cross-trained in each other's tasks — a redundancy that becomes crucial if one or two crew members are wounded.

The four crew positions in the **Gunboat** simulation correspond to each of the positions mentioned above. Your **Gunboat** crew includes:

- **The Pilot**, who controls the boat's course and speed
- **The Bow Gunner**, who fires the twin M2HB .50 caliber or single .30 caliber Minigun mounted on the front of the boat
- **The Engineman/Midship Gunner**, who handles the grenade launcher or machine gun mounted in the middle of the boat
- **The Stern Gunner**, who fires the gun mounted in the stern of the boat.

As a **Gunboat** captain, it's your job to make tactical decisions, and see to it that your gunners and pilot interact effectively under fire. The next chapter contains more information about each station's operations and capabilities.

Once you've selected your assignment and armed your boat, your boat is fully staffed and equipped. The Admiral sends you off with a few parting words. When you press **Enter** for the last time, you're in the pilot's seat, ready to shove off from the dock.

Anchors aweigh!



Section 3: Brown Water Warfare: Gunboat Systems & Procedures

This section covers the systems and procedures for navigating your PBR, commanding your crew, operating the four onboard battle stations, and engaging the enemy in combat — in short, everything you need to know to complete your assigned mission, from the time you leave the dock until the time you return.

Every system on board your PBR is monitored and controlled from one or more of the four crew stations. Each station is accurately modeled after the actual stations on the PBR Mark III boats currently in use by the U.S. Navy.

General Commands

These commands are generally available to you at any point during the simulation:

[P] Pause Action/Resume Action

These commands are accessible during any mission, from any station in the boat:

[X] Move to the Pilot's Main (center) View Screen

[V] Move to the Bow (front) Gunner's Station

[B] Move to the Midship Gunner's Station

[N] Move to the Stern (rear) Gunner's Station

[ESC] Return to Base — When the carnage gets extreme, or the mission's over, this is how you get home again.

[M] Mission Map — Get an overview of your position, and the surrounding area. The maps are based on actual maps of Vietnam, the riverways of Colombia, and the Panama Canal Zone. The Practice Mode maps show the sloughs and rivers of the northeast ern San Francisco Bay, where the U.S. Navy's Mare Island PBR training center and operations base are located.

Watch the map carefully when you know that there's an upcoming fork in the river, so you'll be ready to give the computer pilot the right directions when the time comes. Two marks appear on the map to help you keep your bearings:

- A flashing arrow indicates your approximate destination
- A flashing dot and crosshairs show your current position.

The action temporarily pauses while you refer to this screen.

The lower part of the screen summarizes how many enemy targets you've destroyed so far in the course of this mission.

[A] Assignment Review — After the ninth or tenth tough firefight of the day, you may start wondering why you ventured out here in the first place. It might help to take another look at your mission orders, and refresh your memory. The action pauses while you look at this screen.



D Damage Report Screen — A status summary of your PBR's crew and operating systems. When you're under heavy fire, check the Damage Report Screen frequently to find out at a glance which systems you can still use, and how your crew is doing. The action pauses while you look at this screen.

Because your PBR is fairly well armored, small-caliber bullets fired on your hull won't slow you down much — though a few well-placed enemy .50 caliber machine gun rounds can do some real damage to exposed crew members, radar and spotlights. You can't repair anything on board while you're in enemy waters: if you take a hard hit, run aground, get stuck, or lose your engines, use any resources you have left to blow away as many of your attackers as you can — and then press **Tab** to abandon your boat and Return to Base.

L Time Compression — If you want to speed things up a little on your way to the front, press this three-way toggle key once. To speed them up even more, press twice — and hold onto your stomach. Because time compression also speeds up the enemy's thinking processes and response rate, press it a third time when you suspect that enemy forces are nearby, or find yourself under fire. This turns off the Time Compression entirely.

If you have a slow-running computer, you may want to fight the entire mission with the time compression turned on.

ENTER Extra Time Compression — When you find yourself in a long, quiet stretch — or a very big hurry — hold down this key to get maximum time compression. To slow down again, just release the **Enter** key.

I Identify Target — When you have a potential target in view, you can ask for identification. (To get a clearer idea of what kinds of targets you might encounter, turn to Section 5.) Use this command often: shooting at friendlies is one of the better ways to get yourself court-martialed, so this is your insurance of continued job security.

Be sure that the target is lined up directly in front of the boat or in your gunsight before you press **I.** This key indentifies the closest interesting-looking target in the area dead ahead.

The Pilot's Station

The helm is the central control station for the entire boat, where all the mechanical and navigational systems are located. As captain, you may spend a fair amount of time here: your ultimate success largely depends on your competence at managing this station. To reach the Pilot's Station at any time, press **X**.

When you're at the Pilot's Station, the PBR is under your manual control. The pilot is assumed to be the captain of the boat (that's you), so when the pilot dies, the mission is over.

X to view the center panel

Keyboard Commands

The following commands can be executed any time you're at the Pilot's Station. All of the corresponding gauges and indicators are located on the center panel.

I Identify Target — Gives you a positive ID on any potential target that's directly in front of the boat.



Space Throttle Neutral – Moves the throttle into neutral. Each time you press **Space**, the boat slows down a little, until it eventually stops it dead in the water. The throttle stick on the helm comes to rest in a neutral position.

Up Arrow

Throttle Forward – Increases power to the water jets, propelling the boat forward. The RPM gauges indicate how much power you're getting out of the engines.

Down Arrow

Throttle Back — This command drops deflectors down behind each of your two jets, reversing the thrust and effectively putting you in reverse. If you're moving forward when you first throttle back, the RPMs drop down to zero as you slow down, then pick up again as you begin to move backward. The throttle levers at the right of the center view screen move down as you back up.

NOTE: The twin engines (especially the big 450-horse-power ones) can create a lot of racket when they're running wide open. In situations where stealth is more important than speed, slow down until you're under the halfway point on the RPM gauges. Running under the half-throttle mark quiets the boat down considerably.

Left Arrow; Right Arrow
Turn Left/Turn Right

These commands rotate the water jets, causing you to turn left or right. If you lose one of the two engines or jets, the boat becomes much harder to steer, and may not respond to your attempts to control it.

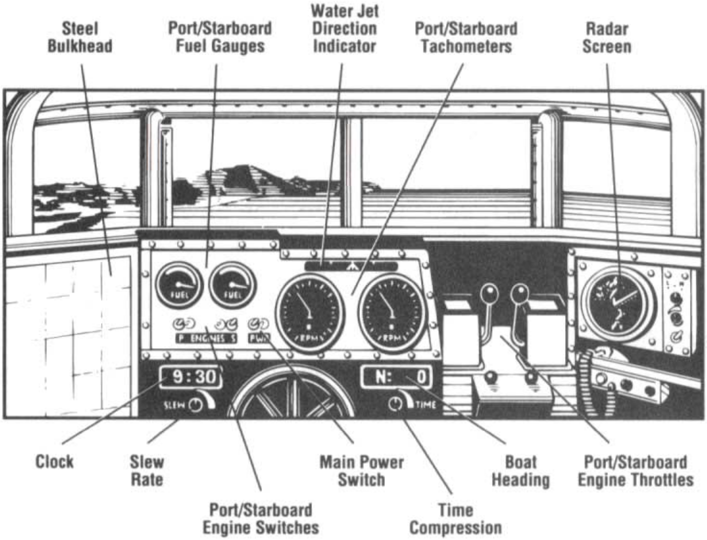


Fig 1. Pilot's Station Composite View

Gauges & Indicators

The Pilot's Station includes a collection of gauges and indicator lights that can give you a great deal of important information about your PBR's systems. They include:

RPM Gauges — One for each engine. They work in both forward and reverse. RPM is a measure of power output, not speed, so don't depend on these as speedometers.

Fuel Gauges — Each of the two engines has its own separate fuel tank; these gauges show how much fuel you have left in each tank. You can't transfer fuel from one tank to the other: if you lose one tank in combat, or just run out of gas, that engine is dead for the rest of the mission.

Water Jet Direction Indicator — The PBR doesn't use rudders to turn: instead, the water jets swivel around, causing the boat to turn left or right. The pointer in this bar shows which way each water jet is trying to point — though whether or not you actually make the turn depends on the condition of your engines and jets, and what's in the water. If your jets get damaged or you lose engine power, the Direction Indicator's accuracy can't be trusted.

Compass — Like any computerized compass, this one expresses your heading as a number between zero and 360 degrees. North is zero; east is 90 degrees; south is 180 degrees; and west is 270 degrees.

Clock — Like any other clock.

Computer Pilot

When you leave the pilot's station, the computer pilot takes over. Before you leave the helm in his hands, there are a few things you need to understand about this guy.

With a little help from a friend in the base records department, we recently got an unauthorized look at his service record. And all we can tell you is: watch him closely. It's not that you can't trust him (although you may sometimes wonder if he's on the enemy payroll — and in Colombia, your suspicion might be justified); it's just that he's got the decision-making capabilities of your average opossum. According to the commanders who've been stuck with him before, there are some specific situations where he's next to useless:

- While you're off attending to other business on the boat, he does his level best to figure out what your course is, and hold to it. But he can't read maps, and the Mission Map looks as tangled to him as the LA freeway system does to the rest of us. When he comes to a fork in the river, or heads toward a coastline, he may remember

your previous instructions to branch right or left — or he may forget, and make the decision all by himself. Keep a close eye on him — and the map — so you can correct his course before he steers you straight into downtown Phnom Penh.

- After several years in the Navy, he finally got the general idea that the best course to take in most rivers is straight down the middle, in the deep water, and well away from shore-bound enemies; and that the thing to do with coastlines is to follow them. (The brass, recognizing this as true progress, promptly promoted him.) But he still forgets sometimes, and has been known to run boats aground. He's especially shaky booming through narrow canyons at high speeds, so it's best if you take over for him before he drives the PBR straight into a sheer rock wall.
- Out on the open sea, he'll just take over from your current helm settings: if you were going straight when you left the helm, he'll keep going straight until he hits Hawaii — or (occasionally) a rockpile along the coastline. If you were turning, he'll keep with it, running in circles forever. And he hasn't the foggiest idea of how to evade boats or other obstacles in the water.

The up side is that he does recognize a few commands, and executes those fairly reliably. To issue orders from one of the other stations, use the following keys:

[Y]	Reverse Direction or, in simple language, turn around
[W]	Branch Left at the upcoming river mouth or fork



- **E** Branch Right at the upcoming river mouth or fork
- **T** Slow Down (he'll let you know when you've slowed to a stop)
- **R** Speed Up (he'll tell you when you've reached maximum speed).

The Gunners' Stations

The pilot is supported by a crew of three gunners, who operate all the artillery on the boat. Depending on the situation, you can move to any of the the three gunners' stations and take matters into your own hands; or you can rely on the computerized gunners to help carry the battle. To reach the three stations, press:

- **V** Bow (front) Gunner's Station
- **B** Midship Gunner's Station
- **N** Stern (rear) Gunner's Station

The three gunners' stations use identical commands, and are equipped with a similar collection of gauges and indicators.

Keyboard Commands

Use the following commands to control the guns and spotlights at each station.

I Identify Target — Gives you a positive ID on any potential target that's directly in your line of fire.

Arrow Keys

Aim Gun — press the arrow keys to aim the gun at the target. If the spotlight is on, these commands aim it as well.

Space

Open Fire — The burst of fire continues for as long as you hold down the key.

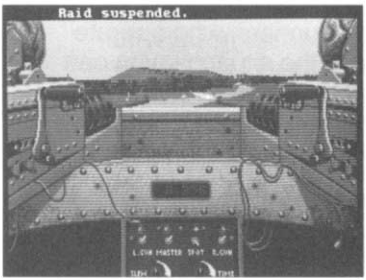


Fig 2. Gunner's Station Bow

Gauges & Indicators

Each gunner's station comes equipped with a small selection of gauges and indicator lights:

Compass — Just like the compass on the pilot's station, but this one shows the direction your gun is pointing. This is really useful if you've been moving around the boat a lot, and are getting disoriented.

About the Bow Gunner

The front gun turret offers the best view on the entire PBR, and you may find yourself spending most of your time up here. After all, in most situations, you're the first to spot danger ahead, and the first to fire on it. It's also the only station equipped with two guns, instead of just one.



The Bow Guns rotate a complete 270 degrees, so you can fire on just about anything except the boat's cabin behind you. You can outfit the Bow Gunner's station with a pair of .50 cal M2HB machine guns, or a M134 Minigun. To find out more about these weapons, turn to the discussion of *Armament* in Section 4.

About the Midship Gunner

The engineman/midship gunner stands on a steel platform high atop the engines, just behind the PBR's cabin. Your gun rotates in a full 270-degree sweep that takes in the sides and rear of the boat — but, like the bow gunner's station, you can't turn the guns around to fire on your own cabin. Also (to the relief of the stern gunner, who stands just below you on the fantail), the gun can't be lowered far enough to fire on the stern gunner's station.

The Midship Gunner's Station is equipped with an M129 automatic grenade launcher. For a detailed description turn to the *Armament* list in Section 4.

About the Stern Gunner

The Stern Gunner is located low down in the PBR's fantail — so low, in fact, that when the boat's underway, he stands almost even with the water. (In **Gunboat**, you might notice that the boat's stern rises up out of the water slightly as the boat accelerates.) Like the midship gun, the stern gun rotates 270 degrees around the sides and back of the boat. You can't turn it around far enough to fire on the cabin or the midship gunner.

The Stern Gunner can be equipped with one M2HB .50 caliber machine gun.

A message at the top of the screen notifies you when one of your gunners is wounded. When a gunner is killed, you no longer have access to his weapon. If you were at that gunner's station when he took the fatal hit, the Damage Report Screen immediately appears in front of you.

When the Mission Ends

Missions can end in one of three ways:

- You achieve your mission objective
- Your entire crew is killed and your boat is destroyed
- You decide to abandon the mission in the middle, and go watch *Apocalypse Now* .

In any of these three cases, press **Tab** to return to base. The Admiral issues a mission report that evaluates your effort, and summarizes your career status to date.



Section 4: PBR Reference Section

PBR Technical Specifications & Development History

The PBR (Patrol Boat, River) is a military adaptation of a commerical boat originally designed and manufactured by United Boatbuilders of Bellingham, WA. Over the past 25 years, the U.S. Navy has commissioned three generations of the PBR:

PBR Mark 1 (1966)

Length: 31'

Maximum Width: 11 feet

Top Speed: 28 knots

Engine: 215hp General Motors diesel truck engine; Jacuzzi water jet propulsion pump.

Draft: 18" fully loaded

Crew: Four

Radar: Raytheon 1900/W surface-scanning unit

Cost: $75,000 (in 1966 dollars)

As the first U.S.-made PBR, the 120 Mark I boats delivered in 1966 formed the foundation of the U.S. Navy's forces in the Mekong Delta. It was smaller and slower than its successors, but proved the viability of riverine warfare beyond a doubt.

PBR Mark II (1967)

Slightly longer and more powerful than the Mark I. The protective aluminum gunwales on the Mark II's hull were a major improvement over the Mark I, which was annoyingly prone to being sliced open whenever it made hard contact with rocks, underwater obstacles, or other boats. Over 130 Mark II PBRs were sent to Vietnam between 1967 and 1969.

PBR Mark III (1976)

The viciously powerful post-war version of the PBR, the Mark III is the Navy's most current riverine craft. The engines — 450-horsepower monsters with a maximum speed of nearly 50 knots — put out enough power to give a hydrofoil a fair race in open water. In addition, the Mark III is more maneuverable than anything you'll find in *Road & Track*: you can brake down from top speed to a dead stop, or complete a 180-degree turn, in just a single boat length. On the down side, though, it's somewhat noisier than its predecessors, which means your engine choice often comes down to a question of speed over stealth.

In 1978, the PBR Mark III cost about $500,000, minus guns.

Over the years, the term PBR (Patrol Boat, River) has described a wide variety of boat types that were outfitted to perform the same function. The PBR in **Gunboat** fits the Mark II and Mark III specifications described above.



The Brown Water Navy: an Overview of American PBR Warfare

Throughout its 200-year history, the U.S. Navy has focused on big boats — enormous ocean-going vessels with tremendous range and firepower; free-floating cities capable of supporting vast military operations by sea, land, and air. Because of this emphasis on dominating the world's oceans, the Navy arrived in Vietnam with only one previous experiment in small-craft riverine warfare: a fleet of tiny boats that had patrolled the coastlines and rivers of Dixie a hundred years earlier, during the American Civil War.

Made for the Mekong

The beginnings of modern riverine warfare can be traced back to French colonial forces who occupied Vietnam during the early 1950s — and to the Vietnamese themselves, who had used the waterways of the Mekong Delta as major highways (and, on occasion, battlegrounds) for centuries. In 1953, the French designed the first prototypical PBR-type warboats specifically for use on Vietnam's endless riverways, and introduced them as the core of a new Vietnamese Navy that was especially geared toward riverine combat. (Only later did the French officers in charge add a fleet of ocean-going ships.) In 1955, the French turned full control of the colonial navy over to the Diem government.

That same year, the first American naval advisors arrived in Vietnam, and immediately grasped the tremendous strategic potential of the Vietnamese Navy's riverine fleet. When the Gulf of Tonkin resolution was passed in 1964, the naval advisors seized the chance to quickly upgrade the fleet with faster, quieter, newer, more heavily armored boats, which would enable them to secure the critical Mekong Delta region. From there, the U.S. and South Vietnamese could dominate all of Vietnam.

To save time and money, the Navy bypassed the usual development process, and went shopping for an existing commercial boat that might do the job. At United Boatbuilders of Bellingham, WA, they found what they were looking for: a slick little jet-driven cutter with a big GM-built engine, and no propellers to get tangled up in sandbars and seaweed. A military contract was issued in 1965, and by March 1966 the first 120 PBR Mark I boats arrived in Vietnam.

The Brown Water War

The American-made PBR was far faster and more powerful than the earlier generations of riverine craft, and the first U.S. PBR crews found themselves literally writing the book on a whole new type of combat. Every day demanded that they invent new tactics; every season over the next four years saw further evolution and refinement of their strategies and skills.

Over the course of the war,"Brown Water Navy" missions fell into three classes:

- interdicting Viet Cong supply lines along the Vietnamese coast;
- flushing out NVA guerillas who infiltrated the inland Delta waters (this was especially critical — and tremendously effective — during the 1968 Tet Offensive);
- and working in convoy with armored troop carriers and other boats on strike force missions throughout the Mekong region.

In the early years of the conflict, PBRs weren't based at onshore docks or harbors. Instead, they were attached to and serviced by LST (Landing Ship Tank) vessels, which were anchored offshore. The crews lived on these ships, the PBRs were supplied and maintained by them, and every mission began and ended there. LSTs would stay at anchor for about six

The Brown Water War (continued)

months, providing a floating command base for PBR units, before returning to their own home bases in Japan, Singapore, or the Philippines. Later in the war, as the U.S. established harbors and bases in the Mekong, PBR support facilities were moved onshore.

The PBR's size, stealth, and speed inspired its crews to invent some rather imaginative uses for their craft:

- On night missions, the crew would cut the engines completely and drift with the current (or wait at anchor in a secluded area), silently biding time, watching. A nearby enemy unit settling in for the night would abruptly find themselves rudely awakened by blinding spotlights as one or two PBRs suddenly materialized out of the jungle darkness with all guns spitting out a rain of fire.
- In early 1969, the Navy used giant CH-54 Flying Crane helicopters to airlift PBRs into isolated battlezones that were unreachable by waterway. Their appearance in these inaccessible areas took the Viet Cong by tremendous surprise — an advantage that the PBR units usually turned into decisive victory.
- And no, the onscreen reference to waterskiing isn't just a fantasy. Jim Mesko, who has written extensively about Vietnam PBR units, notes: "In reality, PBR patrols were just like any other military operation — long, tedious, boring days that were sometimes punctuated by minutes of sheer terror." During those long, tedious, unbearably hot and humid days on the Mekong, American PBR crews actually did haul out the ropes and skis, and perfected their wake-hopping techniques during a little spontaneous R & R. With its powerful jets and tremendous speed, the PBR was a world-class water ski boat.

Because of their unique role and the singular nature of their missions, the riverine brigades were the only Navy forces who wore jungle-green camouflage fatigues (instead of navy white or blue) as their daily uniform. Within the Navy, the PBR units earned a distinguished reputation as an elite force that never, throughout the entire war, failed to achieve a mission objective.

Modern Times

The U.S. military's policy of Vietnamization literally changed the face of the PBR crews in the late 1960s. One by one, over a period of months, U.S. Navy crew members trained their Vietnamese counterparts to take over control of the boats. When U.S. forces invaded Cambodia in 1970, the Mekong route into Phnom Penh was opened by PBR units that were over 80% Vietnamese. In the closing years of the war, ownership of the boats passed into the hands of the Vietnamese Navy. And, no doubt, some of those original patrol boats — now over 25 years old — cruise the Mekong Delta to this day.

Back home again, the Navy moved forward. In Vietnam, their PBR units had made history as one of the most successful and effective fighting forces in the entire U.S. military. In recognition of the PBR's strategic value, the Navy established two permanent riverine fleets. In 1976, the Navy commissioned the modern PBR Mark III — a slightly longer version of the Vietnam-era PBR, with General Motors 450-horsepower engines that are nearly twice as fast as their precedessors. By 1980, the Mark III could be found in the navies of Iran, Sri Lanka, Syria, Cambodia, and the Philippines....and throughout the waters of northern San Francisco Bay and the sloughs of the Sacramento River Delta, where new crews come and take their lessons from the pioneering vets of the Mekong's brown water war.



Armament

When selecting weaponry for your PBR, take into account the type of targets you're likely to encounter; and the kind of range, firepower, and accuracy you'll need in order to complete your mission. Your choices include:

M2HB Browning .50 Caliber Heavy Machine Gun

Fire Rate:	600 rounds per minute
Effective Range:	1996 yards
Ammunition:	.50 cal armor-piercing incendiary (API) rounds

This hefty gun has been in widespread use since the end of World War I, and was standard equipment on PBRs in Vietnam. After 70 years, it's still a mainstay of the U.S. armed forces and 29 other armies around the world. It's your best choice for stopping onshore light armor and unarmored boats — though somewhat less effective against infantry, due to its slow rate of fire. (Besides, firing API rounds at human beings brings new meaning to the concept of overkill.)

M60D 7.62mm General Purpose Machine Gun

Fire Rate:	550 rounds per minute
Effective Range:	984 yards
Ammunition:	.30 caliber bullets

The M60 has been the standard U.S. military machine gun for the past 30 years, and saw heavy use in Vietnam. This version has been specially adapted for use as a pintle-mounted gun on helicopters, armored vehicles, and riverine craft. Belt-fed and gas-powered, the M60 is intended to be used against infantry, light boats, and unarmored targets. (Don't bother firing it at bunkers or houses.)

M129 Automatic Grenade Launcher

Fire Rate:	230 to 450 rounds per minute
Effective Range:	1875 yards if you're not moving; about 400 yards if you are.
Ammunition:	40mm grenades

The M129 was originally designed to be mounted on helicopters, but was later adapted for use by ground forces, tanks, and riverine craft as well. You can't keep up the burst very long — but then again, you probably won't have to: small boats, unfortified buildings, and unarmored vehicles will probably be rendered useless by just one well-placed grenade; and anyone unlucky enough to be within 10 yards when one detonates probably won't live to tell about it. It's the best thing going for medium-scale deforestation, turning huts and sampans into piles of straw, and even flattening small villages (if you're up for the nasty court-martial that's likely to follow).

On the other hand, the launcher is hard to aim; and the grenades don't pack quite enough juice to do much damage to concrete structures like bridges or bunkers, so don't waste time and ammo trying.

Tactics

The first U.S. riverine crews arrived in Vietnam without so much as a book to go by. You don't have to. Here are some tactics, tips, and assorted odd thoughts on making the most of your PBR:

For Pilots

- Full-throttle is the only way to fly if you're trying to get somewhere — or get away from something — very fast. But most of the time, PBR crews prefer to mosey along at a leisurely pace, with plenty of time to scout the banks and choose their course.



- If you keep your speed low (below half throttle), the enemy is much less likely to hear you — the better for sneaking up on targets. Opening the throttle over the halfway mark makes you a great deal easier to find.
- If you approach a target head-on, your bow gunner is the only crew member that can get a clear shot at it. Since everyone wants to get into the act, try to angle in on a target, so your midship and stern gunners get the chance to use their firepower.
- PBRs are very light, and draw almost no water — attributes which make them terrific on smooth, shallow rivers, but about the last boat you'd want to take into rough water or high seas. Bear this in mind, and exercise extreme caution when you're out in open water.
- Beware of submerged rocks, roots, and sandbars whenever you approach the shore. They can hang you up, bog you down, or damage the boat. The radar screen sometimes provides clues as to their location, but your best defense is to slow down and ease up to the shore.
- Recognize the limitations of your computerized pilot. When you're under fire from a fort, are speeding through a canyon, or find yourself in any situation that requires a steady, quick hand on the helm, switch to the driver's station. For one thing, you're no doubt better at evasive driving, avoiding traffic, and making it through a slalom course of mines. For another, he has an annoying tendency to panic under fire and ram the PBR into things like canyon walls or other boats.
- Hitting the shoreline or running aground can do more damage to your boat than a bunker's worth of hostile infantry:

- You can do serious damage to your water jets. If just one of the jets gets skewed, your PBR can persistently veer left or right for the rest of the mission.
- If both jets get mangled, you're in for a slow, wobbly ride.
- If you hit a rock or cliff, you risk putting a hole in your hull. In these cases, your flak jacket does not do double duty as a flotation device.
- Use the **Enter** key to turn on the time compression and zip through stretches of friendly or barren territory. Use them until you get shot at, or reach something you want to inspect more closely. One caution: enemy thinking processes also speed up when you use time compression, so turn it off immediately when you discover enemies about.

For Gunners

- None of the guns on your PBR come equipped with stabilizers. Your aim is cleanest when the boat is stopped, moving slowly, or maintaining an even speed over smooth water; and your chances decrease drastically in rough water, or at high speeds. In order to get the most accurate identification of a target, slow the boat down – especially if you're in choppy water.
- In most cases, it's easiest to aim using the middle slew rate setting. To refine your aim, slow the slew rate down to the lower setting.



- When the boat is rapidly turning, suddenly speeding up, or abruptly slowing down, it's prone to tilt, which can throw off your aim. Be aware of this, and try to compensate. If possible, ask the pilot to slow down, and don't issue "Slow Down" or "Speed Up" commands while aiming at targets.
- If the target's moving, don't aim at where it is — aim at where it will be a few seconds from now, when your shell catches up with it. The amount of lead time depends your range, your fire rate, and how fast the boat is moving relative the target. If you try to hit a target that's out of your gun's range, you'll probably miss.
- Shoot your guns in short bursts. This gives you time between bursts to check and make sure you're actually hitting something.
- The front gunner's station is probably the best seat in the house. You're the first to see trouble ahead, and the first to respond to it.
- Keep an eye on the computerized pilot, and anticipate upcoming river forks. Remember, if you don't branch left or branch right, he'll decide for himself which fork to take, and the next thing you know, you'll be sending the Admiral postcards from Caracas.
- Every gunner's station has a different 180-degree field of view. It's disturbingly easy to get yourself turned around as you switch from station to station, especially if the boat's taking some fast turns. If you're feeling dizzy, refer to the Mission Map frequently to make sure you're still heading the right direction.
- It's hard to aim anything very accurately on a fast-moving boat. In situations where you can't do the job with a sharpshooter's finesse, make up for it with raw, unleashed power. Your ammo is unlimited, so it costs you

nothing to spray your guns back and forth over the targets and mow 'em down — just like in the gangster movies.

Know Your Enemy

You may encounter scores of different target types on your various **Gunboat** missions. We've compiled this list to familiarize you with some of the more common enemy resources.

Vietnam

The Vietnamese scenarios reflect the war as it was in 1970, and the equipment you encounter there is the similar to what the original riverine units faced during those days. Among the unfriendlies you'll meet:

PT 76 Tank

A light, thinly-armored Soviet-made reconnaisance tank. Watch out for the 76mm guns, and the infantry units that are usually part of the cargo.

T55 Tank

A Soviet World War II dinosaur with stubbornly thick armor and a wicked 100mm gun. Nothing to do but turn tail and run, or grit your teeth and lean on the throttle — you don't have the armament to deal with it.

BTR 60/BTR 70

Another Soviet export: a fast light-armor infantry carrier, equipped with a .50cal machine gun and a 30mm grenade launcher. Nail it with .50 caliber rounds — before it nails you.

RPG7

This Soviet missile launcher isn't as deadly to boats as it is to tanks — though will still put a hole in your aluminum hull. Shoot down the missile if you can; then take out the launcher before it can fire another one.



Machine gun nests

These are basically sandbag piles. Use .50cal guns or grenades.

Bridges

You'll encounter a wide assortment of bridges. All of them can be taken down with your mortar launcher and enough persistence.

Sampans

The natives make these boats out of reeds. Everyone in Vietnam used them, including civilians and the U.S. forces, so you should be extra careful about firing on the right ones. (Blowing up old ladies on the way to market is a good way to get court-martialed; blowing up your own troops is an even better one.)

Infantry

VC infantry wear either fatigues or the standard-issue black pajamas. Be sure to get a good ID before blazing away at them.

Trees

Green, leafy stationary targets. You don't get points for blowing them up.

Docks

Used by both us and them, and the civilians as well. Like bridges and sampans, don't blow one up without good ID — or good reason. Your mortar launcher is your best bet.

Colombia

The Colombia scenarios represent an escalation of the current American war on drugs. You're going up the tropical rivers to clean out drug refineries, chemical storage dumps, docks, and

fortified strongholds of the Medellin Cartel. One thing here that you won't find elsewhere: some of the enemy armament you'll come up against is American-made. Even at black-market prices, these high rollers can afford the best.

M48 Tank

The good old Made-In-America World War II-vintage Patton tank — working here for the Other Side. Lucky commanders can get away with lobbing mortars at it. Smart ones just get away.

Huey Gunship

A big old lumbering U.S. battle chopper outfitted .30 and .50 caliber guns — and sometimes, TOW-2 wire-guided missiles. Your .50 caliber gun should be enough to swat it out of the sky.

Pickup Truck

Could be Juan Valdez hauling his mountain-grown coffee beans into town. Or, it could be a small arsenal-on-wheels, complete with TOW-2 launchers and machine guns of varying sizes in the back. If it's the latter, take it out with your .50 caliber gun or grenade launcher.

PT 76 Tank

Light, thinly-armored Soviet-made reconnaisance tanks. Watch out for their 76mm guns, and the infantry units that are usually part of the cargo. Use your .50 caliber guns.

BTR 60/BTR 70

Another Soviet export: a fast light-armor infantry carrier, equipped with a .50 cal machine gun and a 30mm grenade launcher. Nail it with .50 caliber rounds — before it nails you.

Power Boats

Flashy, fast small and medium-sized power boats. They're usually bristling with small arms. Like any unarmored vehicle, it's vulnerable to your .50 caliber gun or your grenade launcher.



Huts

Colombian huts tend to be more substantial than Vietnamese hooches — and require more substantial ammo. But they don't last long in a rain of grenade fire.

Machine Gun Nests

Your basic stack of sandbags. Use the .50 caliber gun or the grenade launcher.

Mortar Nests

A sturdy sandbag structure that's reinforced with tree trunks. It houses a single mortar launcher. In this case, fight fire with fire, and go for your own mortar.

Enemy Fortification

A solid brick building that probably contains a large salvo of mortars, and possibly other heavy armament as well.

Defensive driving is your best best when caught in a hail of fire from one of these fortifications. Generally, the shells tend to fall in an identifiable pattern. A sharp pilot who discerns the pattern can anticipate and evade incoming fire, ensuring that the PBR comes through in one piece.

Mercenaries

Infantry by any other name. Deal with them accordingly.

Panama

The Soviets supply most of the armament you'll see in Panama: until very recently, they were a more reliable source of spare parts.

T62A

A widely-exported Soviet tank with heavy armor and big guns. Not modern, but formidable. Don't even try to stop them.

PT 76 Tank

A light, thinly-armored Soviet-made reconnaisance tank. Watch out for the 76mm guns, and the infantry units that are usually part of the cargo. The thin armor won't stop your .50 caliber shells.

BTR 60/BTR 70

Another Soviet export: a fast light-armor infantry carrier, equipped with a .50 caliber machine gun and a 30mm grenade launcher. Nail it with .50 caliber rounds — before it nails you.

Radar Installation

Think of it as a sitting duck. It's huge, stationary, extremely visible (that big dish can be seen for miles), and vital to the enemy. It's also very vulnerable to fire from your .50 caliber gun, if you can get within range.

Anti-Ship Missiles

Positioned to keep the Panama Canal clear of unwelcome traffic, this one means double trouble for you. The airborne missile can wipe you out in mere seconds, unless you slow down, take careful aim with your .50 caliber, and shoot it out of the sky before it reaches the boat. Even if you succeed, the launcher can instantly lob another one at you — so don't hesitate to destroy the launcher, too.

Mi-24 Hind Helicopter

In the Canal Zone, these Soviet-made choppers are thicker than mosquitos, and even more annoying. They carry lots of AT-6 Spiral missiles, which they will gleefully hurl at you. On the other hand, they're not the most maneuverable of beasts, so it's not impossible to take out a low-flying Hind with your .50 caliber machine gun.



Power Boats

Flashy, fast small and medium-sized power boats. They're usually bristling with small arms. Sink them with your trusty .50 caliber machine gun.

Trucks/Buildings/Infantry

Ubiquitous targets. If you can't handle these by the time you get to Panama, you don't deserve your stripes.

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GUNBOAT
COMMAND CHART



"Go To Station" Commands

Command	Key
Pilot's Main Station	X
Bow (Front) Gunner's Station	V
Midship Gunner's Station	B
Stern (Rear) Gunner's Station	N

While In a Pilot's Station

Command	Key
Throttle Forward	↑
Throttle Back	↓
Slow Down	Space
Rotate Water Jets Left	←
Rotate Water Jets Right	→
Identify Target	I

General Game Commands

Command	Key
Pause Game	P
Return To Base	ESC
Time Compression Off/On/Hi	L
Time Compression While Pressed	ENTER

While In a Gunner's Station

Command	Key
Aim	✛
Fire	ENTER
"Pilot, Reverse Course".	Y
"Pilot, Branch Left".	W
"Pilot, Branch Right".	E
"Pilot, Go Slower".	T
"Pilot, Go Faster".	R
Identify Target	I

Mission Information

Command	Key
View Map	M
View Assignment	A
View Damage	D

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